FIG. 1

Cable Modem Configuration File

ServiceFlow1 = SID_x
{QOS Parameters}
MPLS/VPN tag1

⟸⟹

Classifier1
TCP source port = 80
IP Address range x→y

ServiceFlow2 = SID_y
{QOS Parameters}
MPLS/VPN tag2

⟸⟹

Classifier 2
VoIP protocol
IP Address range w→z

ServiceFlow3 = SID_z
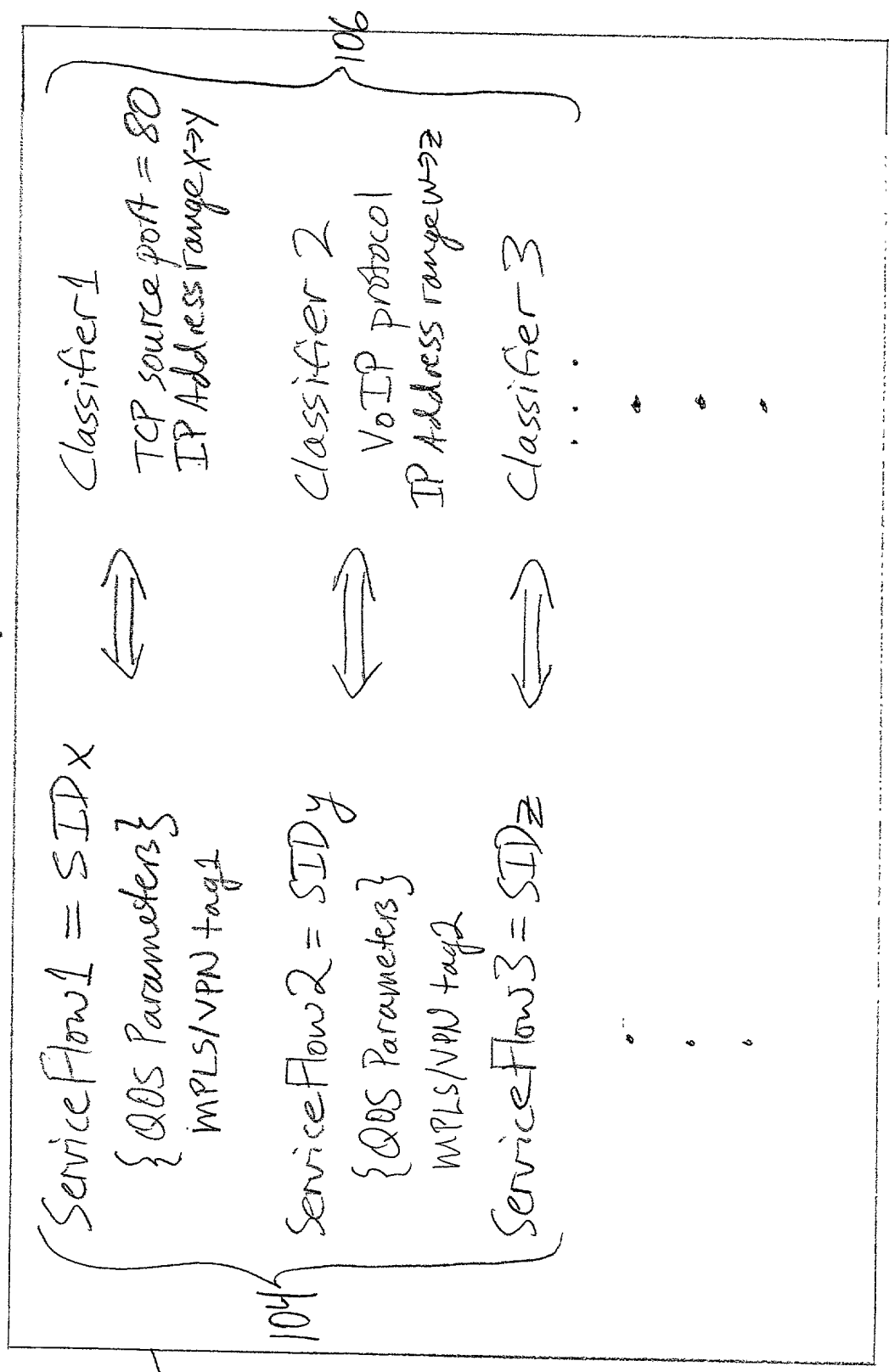
⟸⟹

Classifier 3

. . .

102

104

106

FIG. 2A

Mapping a Data Packet with an MPLS/VPN Tag

PC sends a data packet to a cable modem for transmission over a network ~202

Cable modem examines the IP address of the device from which the data packet originated ~204

Cable modem examines configuration file to determine classifier based on IP address ~20

Cable modem maps classifier to a service flow using configuration file ~208

(A)

FIG.2B

(A)

Cable modem assigns a
SID to the data packet
as determined by service
flow   ~210

Data packet transmitted
upstream to CMTS   ~212

CMTS examines header
of packet to determine SID
and "reverse" maps to derive
service flow   ~214

CMTS determines MPLS/VPN
tag for data packet based
on service flow   ~216

END